

IN THE CLAIMS

Cancel claims 1-3 without prejudice or disclaimer.

Amend claims 4 and 5 to read as follows:

4. (Amended) A semiconductor device, comprising:  
a semiconductor substrate of a first conductivity type;  
a resistance layer of a second conductivity type formed on the semiconductor substrate,  
one end of said resistance layer being adapted to have a first voltage applied thereto, another end  
of said resistance layer being adapted to have a second voltage applied thereto;  
an oxide film formed on the resistance layer;  
a resistance bias electrode layer comprising a silicon layer formed on the oxide film; and  
a pair of electrode pad layers of the second conductivity type formed at both ends of the  
resistance layer of the second conductivity type,  
wherein the first and second voltages are applied to the corresponding electrode pad  
layers to provide the resistance layer with an electric current, and  
the device is configured so that voltage dependence of a resistance of the resistance layer  
is reduced by adjusting the first and second voltages applied to the resistance bias electrode layer.

5. (Amended) The semiconductor device of claim 4, wherein the ratio of the voltage  
difference between the first and second voltages applied to the pair of the electrode pad layers to  
the voltage applied to the resistance bias layer is 0.5-0.6.

Add the following new claims:

14. The semiconductor device of claim 4, wherein the resistance bias electrode is formed  
from two deposited silicon layers.

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end

15. The semiconductor device of claim 4, wherein the voltage applied to the silicon layer is provided from the middle of the resistance layer in a lateral direction.

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